REMARKS

1. Status of the Claims

Claims 22-41 are pending in the application. Claims 37-41 were previously withdrawn from consideration in response to a restriction requirement. Claims 37-41 are cancelled by means of the foregoing amendment without prejudice to presenting these claims a divisional application. New claim 42 is added by the foregoing amendment. Claims 22-36 stand rejected. Each of the Examiner's rejections is discussed in detail below.

2. Claim rejections – 35 U.S.C. § 112

Claims 22-36 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner argues that the recitation, "two different electroluminescent functionalities as recited in claim 22 is vague and indefinite because applicants have failed to further clarify and define what the two different electroluminescent functionalities are." Applicant respectfully disagrees that the language "two different electroluminescent functionalities" is vague and indefinite.

In particular, at page 3, line 13 of the application as published it is stated that

> *"The invention accordingly relates to a light emitting diode having at least one (semi)conductive electroluminescent active layer which comprises at least two different electroluminescent functionalities, wherein the emission spectrum of the diode exhibits at least two intensity maxima, in particular at least two dominant intensity maxima."*

Thus, the element of two different electroluminescent functionalities is defined broadly where the emission spectrum of an LED exhibits at least two intensity maxima. One non-limiting representative example of this element is described at page 3, line 9 and page 6, lines 8-20 where it is noted that such an LED might have at least a signal channel and a reference channel. For example:

> *"Very good results have been achieved with a bimodal LED, i.e. a LED which has exactly two λ_{max} in the emission spectrum. Such a LED has been found very suitable for use as a single light source for providing both a reference signal and a detection signal in a detector.*

Preferably, the difference in wavelength between two consecutive λ_{max} is at least as large as the width of the absorption peak of the substance on which measurements are made. Good results have been attained, for instance, with a LED where the difference between two consecutive λ_{max} is at least 50 nm, and in particular with a LED where this difference is at least 100 nm. The maximum difference between two consecutive is not particularly critical. Very good results have been obtained, for instance, with a LED where this difference is less than 1200 nm, more particularly 400 nm or less." (Page 6, lines 8-20)

The element of two different electroluminescent functionalities is further described at pages 9-14 of the application as published. For example, at page 13, line 6-12 it is taught that the different electroluminescent functionalities can be provided by two different electroluminescent compounds. The compounds can be selected from polymers, oligomers, single compounds (e.g. monomers) (lines 19-25) or phosphores and quantum dots (page 9, lines 4-7). Furthermore, at page 14, lines 3-17 an alternative means of achieving two different electroluminescent functionalities is shown; a molecule, for instance a polymer comprising at least two different electroluminescent segments may be utilized in the implementation of an LED.

In summary, the limitation "two different electroluminescent functionalities" is definite and well defined as an LED having an emission spectrum with at least two dominant intensity maxima.

The Examiner further rejects claim 36 as having vague and indefinite language. Claim 36 has been amended to address the Examiner's concerns. In particular, claim 36 as amended positively recites that the first intensity maximum is achieved when electric current is applied through the active layer in a first direction and a second intensity maximum is achieved when electric current is applied through the active layer in a second direction.

3. Claims Rejections – 35 U.S.C. § 102

Claims 22-36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Burroughes (GB 2340304). The Examiner argues that Burroughes discloses an LED having at least one semiconductive electroluminescent active layer, which comprises at least two different

electroluminescent functionalities. Applicant does not concede that the Examiner's understanding of Burroughes is correct. However, applicant respectfully submits that claims 22-36 as amended are allowable over the Burroughes reference even if the Examiner's interpretation of Burroghes is correct. In particular, claim 22 has been amended to positively recite a detector in optical communication with the LED. Burroughes clearly does not disclose a detector in optical communication with the LED. Prior to amendment, the Examiner rejected claim 22 because the recitation of the detection system in the claim preamble was held to be non-limiting. In view of the amendment to claim 22 to positively recite the detector in the body of the claim, applicant respectfully submits that claims 22-36 and new claim 42 are not anticipated by Burroughes.

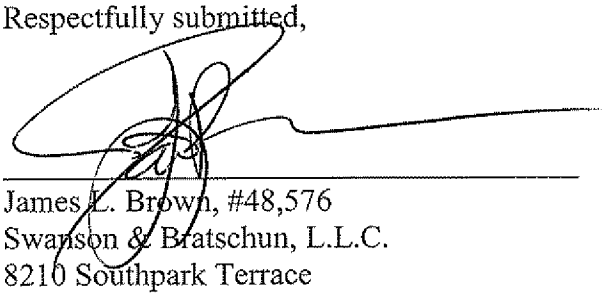
Claims 22-36 stand similarly rejected under 35 U.S.C. § 102(b) as being anticipated by Hatwar (EP 1286569). The Examiner argues that Hatwar discloses an LED having at least one semiconductive electroluminescent active layer, which comprises at least two different electroluminescent functionalities. Applicant does not concede that the Examiner's understanding of Hatwar is correct. However, applicant respectfully submits that claims 22-36 as amended are allowable over the Hatwar reference even if the Examiner's interpretation of Hatwar is correct. In particular, claim 22 has been amended to positively recite a detector in optical communication with the LED. Hatwar clearly does not disclose a detector in optical communication with the LED. Prior to amendment, the Examiner rejected claim 22 because the recitation of the detection system in the claim preamble was held to be non-limiting. In view of the amendment to claim 22 to positively recite the detector in the body of the claim, applicant respectfully submits that claims 22-36 and new claim 42 are not anticipated by Hatwar.

For the reasons set forth above, Applicant respectfully submits the claims as filed are allowable over the art of record and reconsideration and issuance of a notice of allowance are respectfully requested. If it would be helpful to obtain favorable consideration of this case, the Examiner is encouraged to call and discuss this case with the undersigned.

This constitutes a request for any needed extension of time and an authorization to charge all fees therefor to deposit account No. 19-5117, if not otherwise specifically requested. The

undersigned hereby authorizes the charge of any fees created by the filing of this document or any deficiency of fees submitted herewith to deposit account No. 19-5117.

Respectfully submitted,



Date: March 17, 2008

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